MATH 400 — LOS RIOS/CRC
CALCULUS I — SPRING 2019
5 UNIT(S) — SECTION # 14943

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Email is the primary and the most reliable way of contacting the instructor. Either address should work. When emailing, please always specify your real name (the same one as in the roster) and which class you are inquiring about. Emails omitting this information may fail to be processed.

Office: LRC 150, MW 12:00 - 1:15 pm, TT 1:00 - 2:15 pm, (916) 691-7086. Please let the instructor know if these hours do not work for you, and we can try to set up an appointment (allow 2 business days for reply).

Class Meetings: MW 5 - 7:20 pm, Learning Resource Center 210

Required Materials: *Calculus: Early Transcendentals*, 8th edition, by James Stewart. The students are responsible for obtaining the text and reading every section covered in class and/or assigned for homework.

Catalog Description: This course explores the basic concepts of analytic geometry, limits, derivatives, and integrals. Topics covered will include the graphs, derivatives, and integrals of algebraic, trigonometric, exponential, logarithmic, and hyperbolic functions, and indeterminate forms. Many applications will be covered, including those involving rectilinear motion, differentials, related rates, graphing, and optimization.

Prerequisites: MATH 370 with a grade of "C" or better; or equivalent skills demonstrated through the assessment process.

Methods of Instruction: Class meetings will feature a mix of lecture, discussion, short quizzes, and group assignments. Several in-class tests will be given.

Attendance: To succeed in this course, it is crucial that you attend every class session, alert and prepared to learn. Roll will be taken at the beginning of each class. If you arrive after the class has started, please enter the room quietly and get on the roster at the end of the class. If you miss more than a half of a class session for any reason, you will be considered absent for that whole session. **If you miss the total of 6% of class time or more, you may be dropped from the class** (missing one whole week will put you over 6% in most cases). These absences need not to be consecutive, and **any** class time you miss may be added to the total. Exceptions to this policy will be made **at the instructor's discretion** for documented cases of grave illness and/or family emergency. In other words, the instructor reserves the right to drop you at any time after your unexcused absences total 6% or more, regardless of any other circumstances.

If you miss the first class meeting without notifying the instructor or the division administrator in advance, you may be dropped from the class. If you have to be removed from the first class meeting due to a discipline issue, you may be dropped from the class.

By default, only the students enrolled in this class can attend the class sessions. If you are planning on bringing a visitor, you should try to notify the instructor in advance. Exceptions will be made at the instructor's discretion on a case-by-case basis.

https://www.crc.losrios.edu/catalog/geninfo/regulations

Written Assignments: All written assignments, including but not limited to the homework, tests, quizzes, and the final, should be done in **dark pencil or pen**; **black**, **dark gray**, **dark blue**, and **deep purple** are preferred. Fancy colors such as **green**, **red**, or **pink** can only be used to augment graphs and illustrations.

Homework: Homework serves as practice and will prepare you to do your best on quizzes and tests. About 20% of the lowest homework grades will be dropped. Homework is crucial for learning the material as well as for succeeding in this class. Doing all homework is probably the most effective way to raise your test grades. You are welcome to work in groups while solving the homework, but you must submit your own work.

Homework in this class is not intended as the primary means of feedback. The students are expected to check and judge their own work by using answers, whenever the textbook provides them, and/or by discussing the homework with the instructor during the office hours. Typically, the instructor will only check a very small and somewhat random portion of the homework for accuracy.

Late homework will be accepted for 50% credit if it is less than 1 week late, and for 25% credit otherwise. Late homework will **not** be collected or accepted during class meetings. One way to submit the late homework is by bringing it to the instructor's office during the scheduled office hours.

Unless otherwise stated, all homework should be submitted on paper. If multiple sheets of paper are used, they must be stapled, clamped, or clipped together. The title page should list the homework name, your name, and your class. Solutions to exercises should be presented in the order they are assigned. Textbook sections must start a new sheet of paper.

what the homework should look like

HW 4 ← **homework name** **your name, class** → Simpson, Lisa, Math 100

(7.5) ← **textbook chapter, section**

15. $1+2=3$
17. $(2x^2)' = 4x$

page ends here

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new sheet starts

(7.6) ← **next textbook section starts a new sheet of paper**

1. $(x+1)^2 = x^2+2x+1$
2. $(-0.5x^{-2}y^{-1})^{-3} = -8x^6y^3$

⋮

Quizzes: Short quizzes will be given during some class sessions, typically without any advance warning. **No make-up quizzes will be given for any reason.** 20% or so of the lowest quiz scores will be dropped.

Tests: There will be several tests. **No make-up tests will be given for any reason.** If you are not present for the test, zero will be entered as your grade for that test. If you miss a test due to a documented case of grave illness and/or family emergency, you will have an option to use your final exam grade to replace that zero, but only **at the instructor's discretion**.

Final: The 2 hour comprehensive final exam will be given on the date determined by the official final exam schedule:
`https://www.crc.losrios.edu/students/finals/`

The final date and time is determined by the College District before the semester starts. You must plan to be present at the final. If your schedule precludes you from being present at the final, you must inform the instructor in writing during the first two weeks of instruction. If you are not present at the final, "F" will be entered as your grade for the class.

Grading:

Grades versus %	
A	$90-100\%$
B	$80-89\%$
C	$70-79\%$
D	$60-69\%$
F	$0-59\%$

Grade Breakdown	
Tests	60%
Homework	10%
Quizzes	10%
Final	20%

Extra Credit: Get some extra credit during the first 2 weeks of instruction:

(1) visit the instructor's office hours.
(2) access your college webmail and follow the directions in the instructor's greeting message.

Getting Help: If you have a question or a concern not addressed in this syllabus, please contact your instructor via email (allow 2 business days for reply). Moreover, the campus provides some resources to help you study:
`https://www.crc.losrios.edu/services`

Tutoring: The CRC Tutoring Center provides academic support services to CRC students. The Center facilitates drop-in tutoring, study skills coaching, study groups, and more.
`https://www.crc.losrios.edu/services/tutoring`

Additional tutors are available at the Math Center, which helps students to develop confidence and proficiency in their math skills. You must enroll in a variable unit course in order to use the Math Center.
`https://www.crc.losrios.edu/services/mathctr`

Computers: The use of computers and tablets during regular class meetings is OK as long as they are used for class work and are completely silent. While taking quizzes, tests, and the final, only the approved non-networked calculators and/or computers running approved software will be allowed. If in doubt, you should consult with the instructor and get your devices pre-approved prior to the test date. **Using tablets or computers for anything but the current assignment in this class may result in you being removed from the classroom until the end of the session.**

Forbidden Tech: Spyphone/smartphone use is prohibited while the class is in session. In particular, they can never be used as calculators. Computerized watches can be used for showing current time only, and should be stowed away during tests. **Using the tech listed above in violation of this syllabus may result in you being removed from the classroom until the end of the session, which will count as an unexcused absence.**

Required Tech: None

Accommodations: Disability Support Programs & Services (DSP&S) provides equal educational opportunity for students with physical, psychological, or learning disabilities. Counseling, support services, and academic accommodations are provided to students who are eligible for the program.

The Cosumnes River College Learning Disabilities Program can provide support services and academic accommodations to students who have documentation of a specific learning disability from another school or professional. In addition, Diagnostic Assessment may be available for appropriately referred students who come to the DSP&S program for an orientation appointment.

If you have a learning disability, a physical disability, or other special needs, please let the instructor know as soon as possible if you need special accommodations.

Students have the right to request reasonable modifications to college requirements, services, facilities or programs if their documented disability imposes a functional educational limitation or impedes access to such requirements, services, facilities, or programs. A student with a disability who will be requesting modification, accommodation, or access to an auxiliary aid is required and responsible for identifying himself/herself to the instructor and, if desired, to the Disabled Students Programs and Services (DSP&S office). In either event, **the student is responsible for providing appropriate documentation of his/her disability before we can accommodate**. Students who consult or request assistance from the DSP&S office regarding specific modifications, accommodations or use of auxiliary aid will be required to meet timelines and procedural requirements established by the DSP&S office.
`https://www.crc.losrios.edu/services/dsps`

Academic Honesty: Any instance of plagiarism and/or cheating will result in the score of zero for that homework, quiz, or test, and will be reported to the Vice President's office.
`https://www.crc.losrios.edu/catalog/geninfo/integrity`

Meta: The instructor reserves the right to make changes to this syllabus throughout the semester. All relevant changes will be announced in class, and an updated version of the syllabus will be published online. Students are responsible for keeping up with these changes.

Student Learning Outcomes: This section is here for reference only. It may be useful to consult as you are preparing for the final exam. Upon successful completion of this course, the student will be able to

- Evaluate limits of algebraic and transcendental functions.
  - Use algebraic, graphical, and numerical approaches to evaluate limits; Use the epsilon-delta definition to prove limits
  - Identify indeterminate forms and utilize L'Hospital's Rule
- Use definition to prove a function is continuous at a real number.
  - Determine whether a function is continuous at a real number from the left or from the right; Identify the interval(s) on which a function is continuous
- Compute derivatives by using the definition of derivative and by applying differentiation rules to algebraic/transcendental and inverse functions.
  - Compute derivatives by using implicit and logarithmic differentiation techniques
- Recognize and solve real world problems that require use of limits and/or derivatives.
  - Graph functions using the limits to find asymptotes, using the first derivative to find relative extreme values, using the second derivative to find concavity and inflection points, and generate equations of tangent/normal lines.
  - Solve problems involving velocity, acceleration, related rates and optimization
- Understand and apply the concept of the Riemann Sum to develop the formal definition of the definite integral and use the definition to evaluate definite integrals.
  - Calculate definite integrals using the Fundamental Theorem of Calculus and appropriate substitution techniques
  - Interpret definite integral as area and use it to find the area under a curve
- Apply the definitions of limit, derivative, and integral to prove calculus theorems.
  - Apply theorems such as the Intermediate Value Theorem, Rolle's Theorem, and the Mean Value Theorem to derive related theorems